# Balancing Wastewater Disposal and Shellfish Protection at the Very End of Puget Sound

*Bill Fox*, Merita Trohimovich, Cosmopolitan Engineering Group*
*Skip Albertson, Washington Department of Ecology*
*Frank Meriwether, Washington Department of Health*

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Shelton, Washington lies adjacent to Oakland Bay and Hammersley Inlet at the furthest reach of southern Puget Sound. Large intertidal flats provide excellent shellfish habitat, and commercial shellfish harvesting is a principal economic activity. The characteristics that create prime shellfish habitat are also sensitive to anthropogenic impacts, including the discharge of treated wastewater. The community has conducted wastewater facilities planning to accommodate future water and wastewater infrastructure needs. Potentially conflicting objectives include maximizing their investment in an existing 4 mgd (0.18 m3/sec) wastewater treatment facility and outfall and protection of water quality and shellfish resources in Oakland Bay and Hammersley Inlet. Multi-agency field studies and modeling were conducted in 2003 to develop wastewater management and disposal solutions that protect and enhance commercial shellfish harvesting. The city, shellfish growers, and several state and federal agencies jointly conducted oceanographic and water quality studies to evaluate potential future wastewater disposal scenarios. Extensive fluorescent tracer studies and hydrodynamic modeling (using EFDC) lead to a recommended expansion of the wastewater plant capacity by 10 percent, additional treatment and storage during critical tidal conditions, and upland disposal of excess wastewater. The recommended solution may also re-open 2.4 km of shoreline to shellfish harvesting.